**FIG. 1**

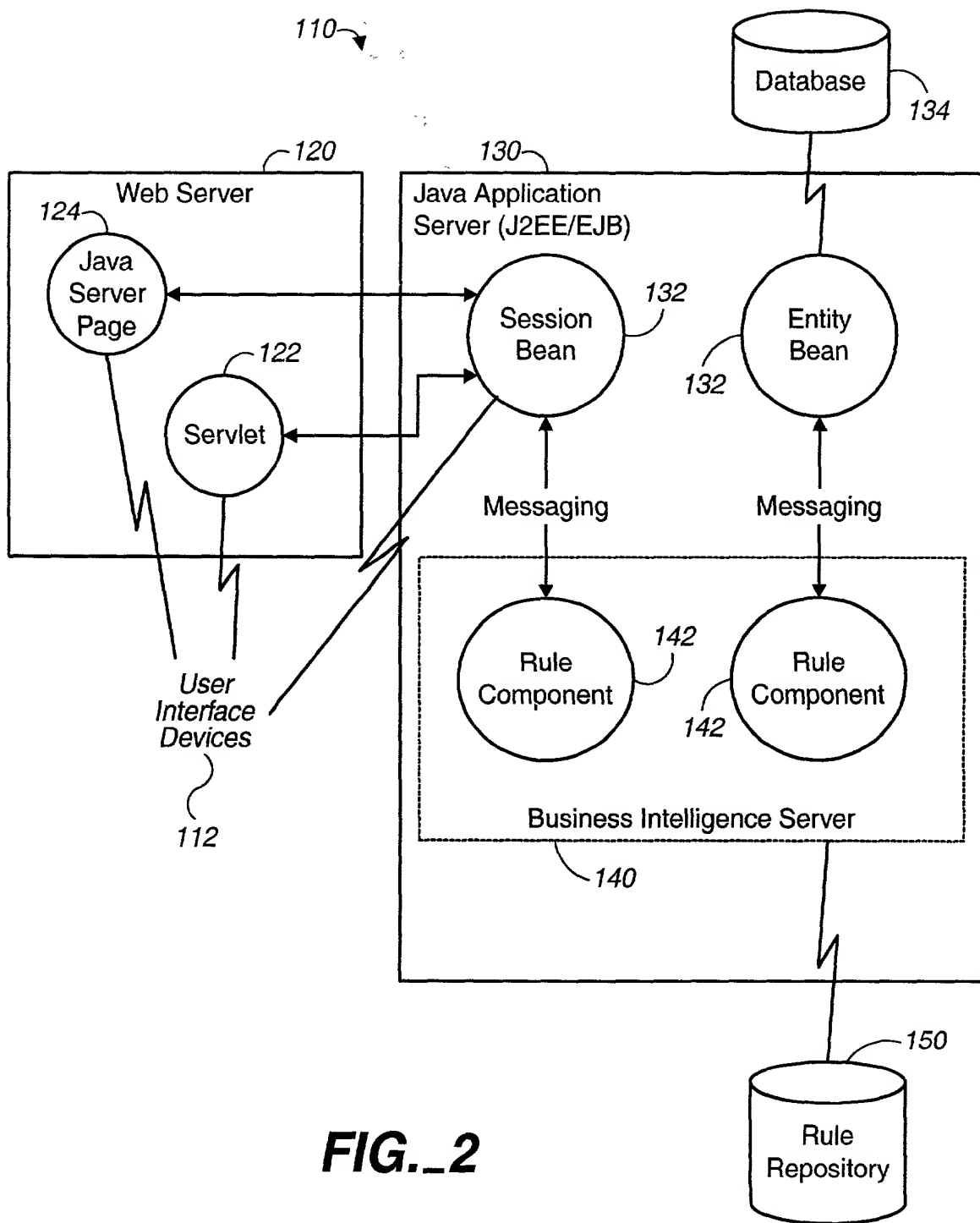


FIG. 2

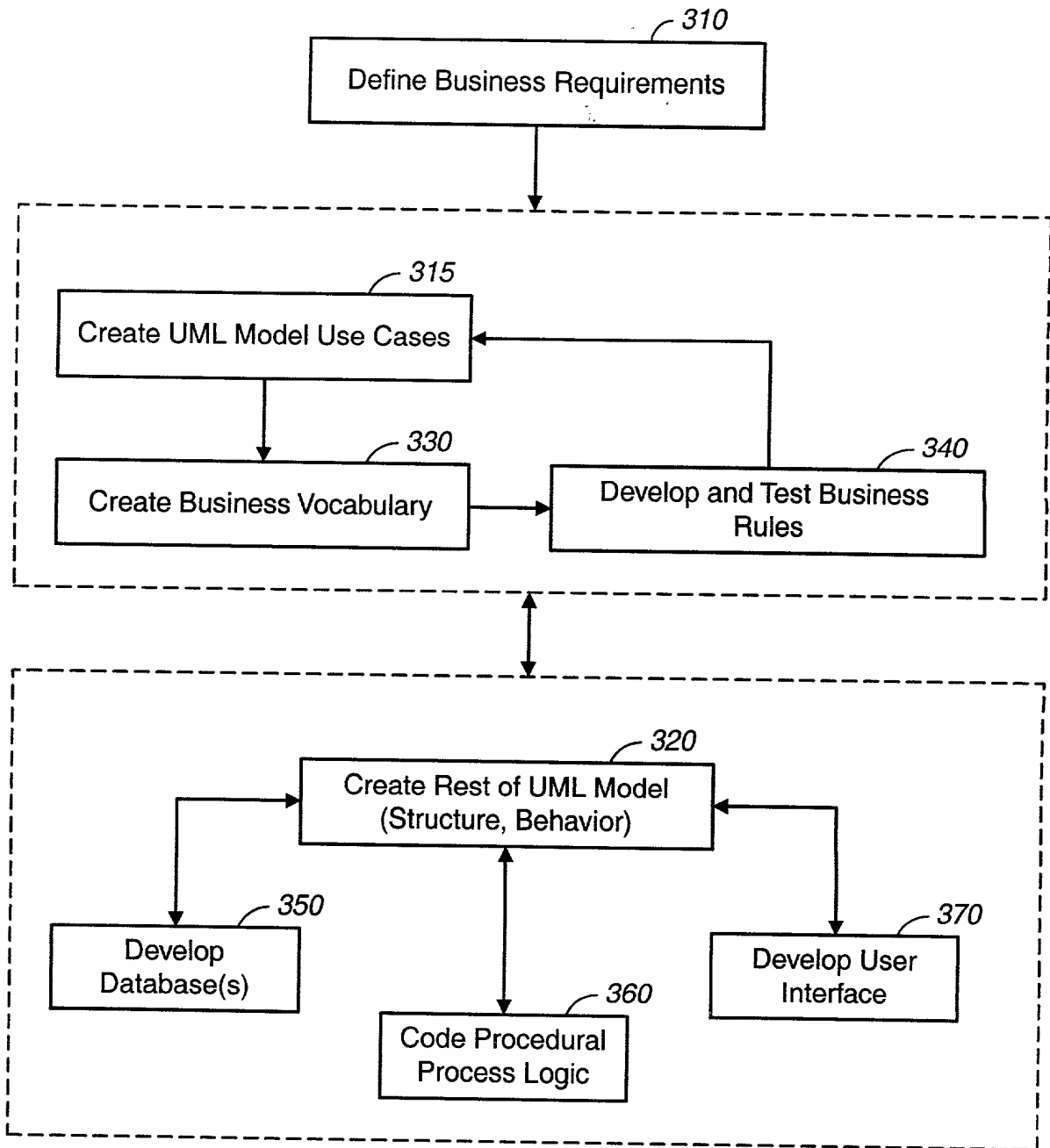


FIG._3

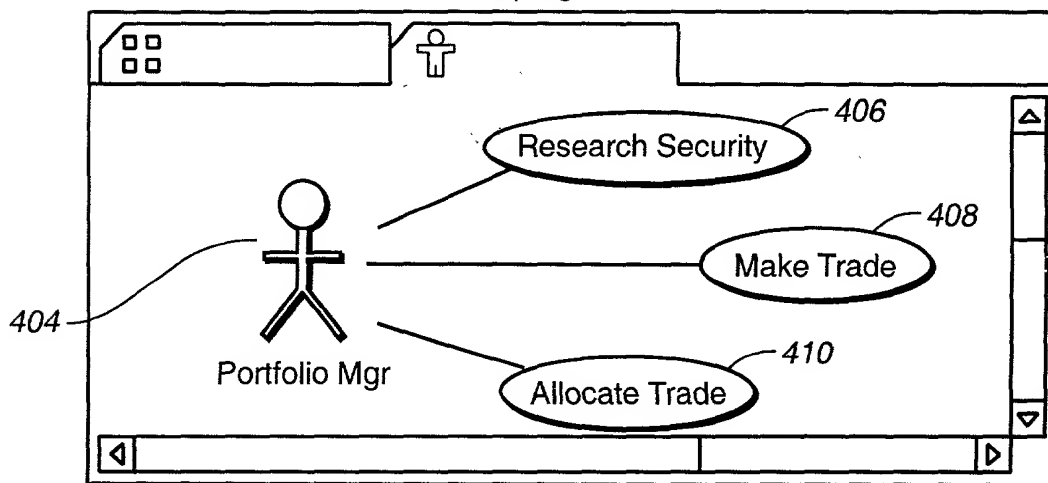


FIG. 4

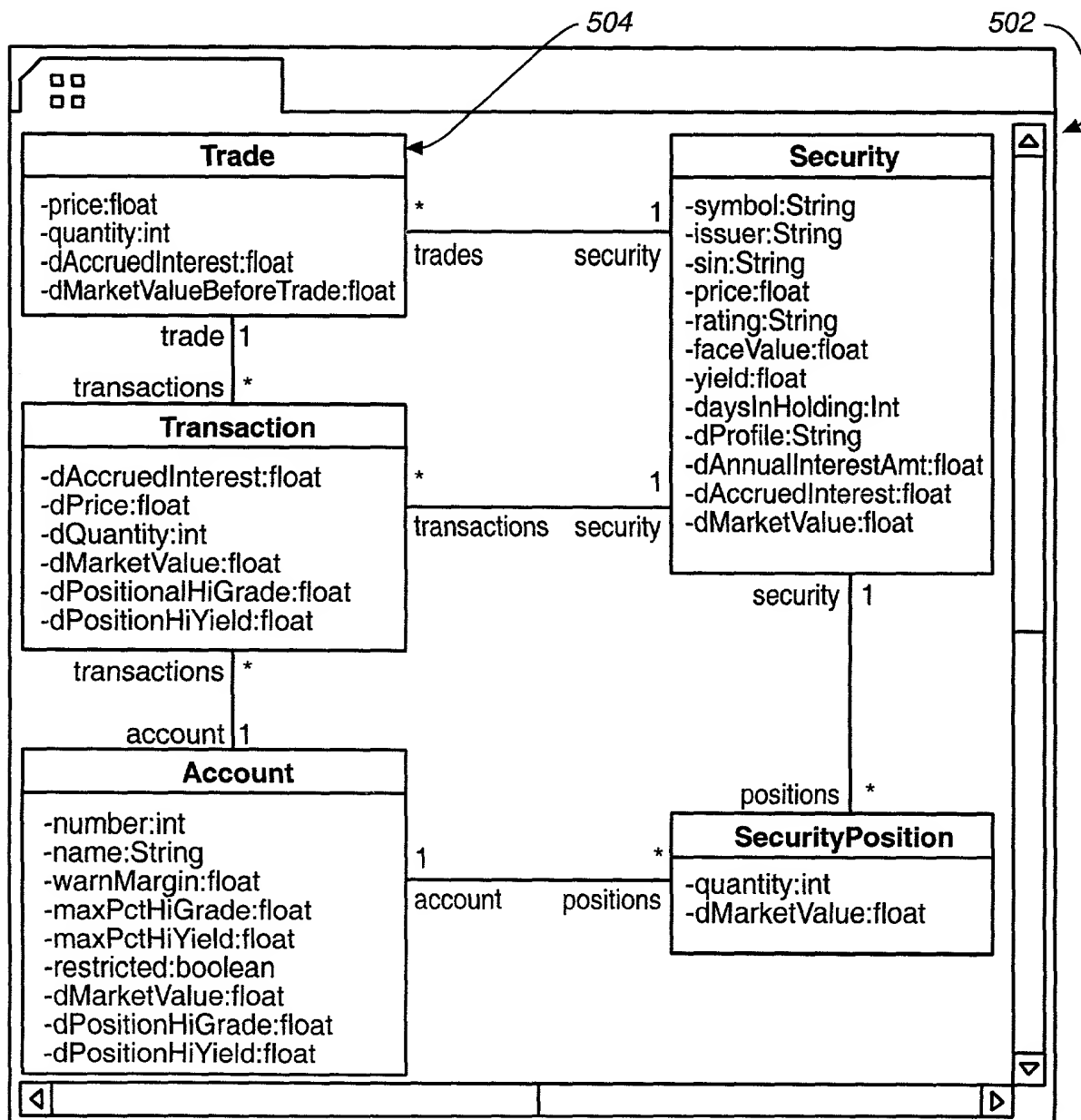


FIG. 5

Figure 1 is a screenshot of a software interface for defining rules. The interface is divided into several sections:

- Vocabulary (622):** A list of terms including Account, Security, SecurityPosition, Trade, price, quantity, dAccruedInterest, and dMarketValueBeforeTrade. Each term has a corresponding icon (e.g., a folder for Account, a circle with a dot for Security).
- Rules (606):** A section for defining rules, containing two main tables:
 - Conditions (610):** A table with columns for Conditions, Values, and a selection column. The values listed are { null, notnull }, { null, notnull }, and { null, notnull }.
 - Actions (614):** A table with columns for Actions, Overrides, and a selection column. The actions listed are postViolation and postViolation.
- Rule Statements (608):** A section for defining the rule logic, containing a table with columns for Rule and Statement. The rules listed are A Trade Price is required and B Trade Quantity is required.

FIG. 6

157/0004001

704

Vocabulary

Account

number

name

warnMargin

maxPctHiGrade

maxPctHiYield

restricted

dMarketValue

dPositionHiGrade

dPositionHiYield

dNewMarketValue

dNewPositionHiGrade

dNewPositionHiYield

dPctHiGrade

dPctHiYield

positions

quantity

dMarketValue

security

symbol

issuer

sin

price

Security

SecurityPosition

Shortcuts

Term	Alias
1 Account	&anchor
2 positions	&position
3 &position.security	&security

Preconditions

1	
2	

Rules (non-conditional)

1	dMarketValue = dMarketValue + &position.dMarketValue
2	

Rules

Conditions	Values
1 &security.dProfile	{ 'HI-GRD', 'HI-YLD' }
2	

Actions

1	dPositionHiGrade = dPositionHiGrade + &position.dMarketValue
2	dPositionHiYield = dPositionHiYield + &position.dMarketValue

Rule Statements

N.1	The market value of an account is the sum of the market values of all the security positions held by the acc...
A	The total market value for all of the {name} account's High Grade securities is computed by summing the...
B	The total market value for all of the {name} account's High Yield securities is computed by summing the...

ED_SecurityPosition

ED_Account

ED_SecurityProfile

ED_Security

FIG..7

Rules									
Conditions		Values							
1	rating	{ 'A', 'BBB', 'BB' }							
2	yield	{ >= 7, < 7 }							
3									
Actions		Values							
1	dProfile	{ 'HI-GRD', 'HI-YLD' }							
Overrides									
Rule Statements									
A A security with a rating equal to A is considered HIGH GRADE.									
B A security with a yield greater than or equal to 7 percent is considered HIGH YIELD.									
ED_SecurityPosition		ED_Account		ED_SecurityProfile		ED_Security			

804 → 806

808

FIG._8

FIG._9

Rules									
Conditions		Values							
1	rating	{ 'A', 'BBB', 'BB' }							
2	yield	{ >= 7, < 7 }							
3									
Actions		Values							
1	dProfile	{ 'HI-GRD', 'HI-YLD' }							
Overrides									
Rule Statements									
A A security with a rating equal to A is considered HIGH GRADE.									
B A security with a yield greater than or equal to 7 percent is considered HIGH YIELD.									
ED_SecurityPosition		ED_Account		ED_SecurityProfile		ED_Security			

904 → 906

Ambiguous with B.1

Rules									
Conditions		Values							
1	rating	{ 'A', 'BBB', 'BB' }							
2	yield	{ ≥ 7 , < 7 }							
3									
		A	B	C	D	E	F	G	
		'A'	-	'BBB'	'BB'				
		-	≥ 7	< 7	< 7				
		4							4
Actions		Values							
1	dProfile	{ 'HI-GRD', 'HI-YLD' }							
		A	B	C	D	E	F	G	
		'HI-GRD'	'HI-YLD'						
		2							
		1004							
		Overrides							
Rule Statements									
A	A security with a rating equal to A is considered HIGH GRADE.								
B	A security with a yield greater than or equal to 7 percent is considered HIGH YIELD.								

FIG. 10

Rules									
Conditions	Values	A	B	C	D	E	F	G	
1 rating	{ 'A', 'BBB', 'BB' }	'A'	-	'BBB'	'BB'				Δ
2 yield	{ >= 7, < 7 }	-	>= 7	< 7	< 7				▽
3		4							Δ

Actions	Values	A	B	C	D	E	F	G	
1 dProfile	{ 'HI-GRD', 'HI-YLD', 'DOG' }	'HI-GRD'	'HI-YLD'	'DOG'	'DOG'				◀▶
	Overrides	2							

Rule Statements	
A	A security with a rating equal to A is considered HIGH GRADE.
B	A security with a yield greater than or equal to 7 percent is considered HIGH YIELD.
C	A security with a rating lower than A and a yield lower than 7 is a DOG.

ED_SecurityPosition	ED_Account	ED_SecurityProfile	ED_Security

1204

Rules									
Conditions		Values							
1	rating	{ 'A', 'BBB', 'BB' }							
2	yield	{ >= 7, < 7 }							
3									
		A	B	C	D	E	F	G	Δ
		'A'	-	{ 'BBB', 'BB' }					
		-	>= 7	< 7					▽
		Δ							Δ
Actions		Values							
1	dProfile	{ 'HI-GRD', 'HI-YLD', 'DOG' }							
		Overrides							
		A	B	C	D	E	F	G	
		'HI-GRD'	'HI-YLD'	'DOG'					◀▶
		2							
Rule Statements									
1 A security with a rating equal to A is considered HIGH GRADE.									
2 A security with a yield greater than or equal to 7 percent is considered HIGH YIELD.									
3 A security with a rating lower than 1 and a yield lower than 7 is a Dog									
ED_SecurityPosition		ED_Account			ED_SecurityProfile			ED_Security	

FIG.. 12

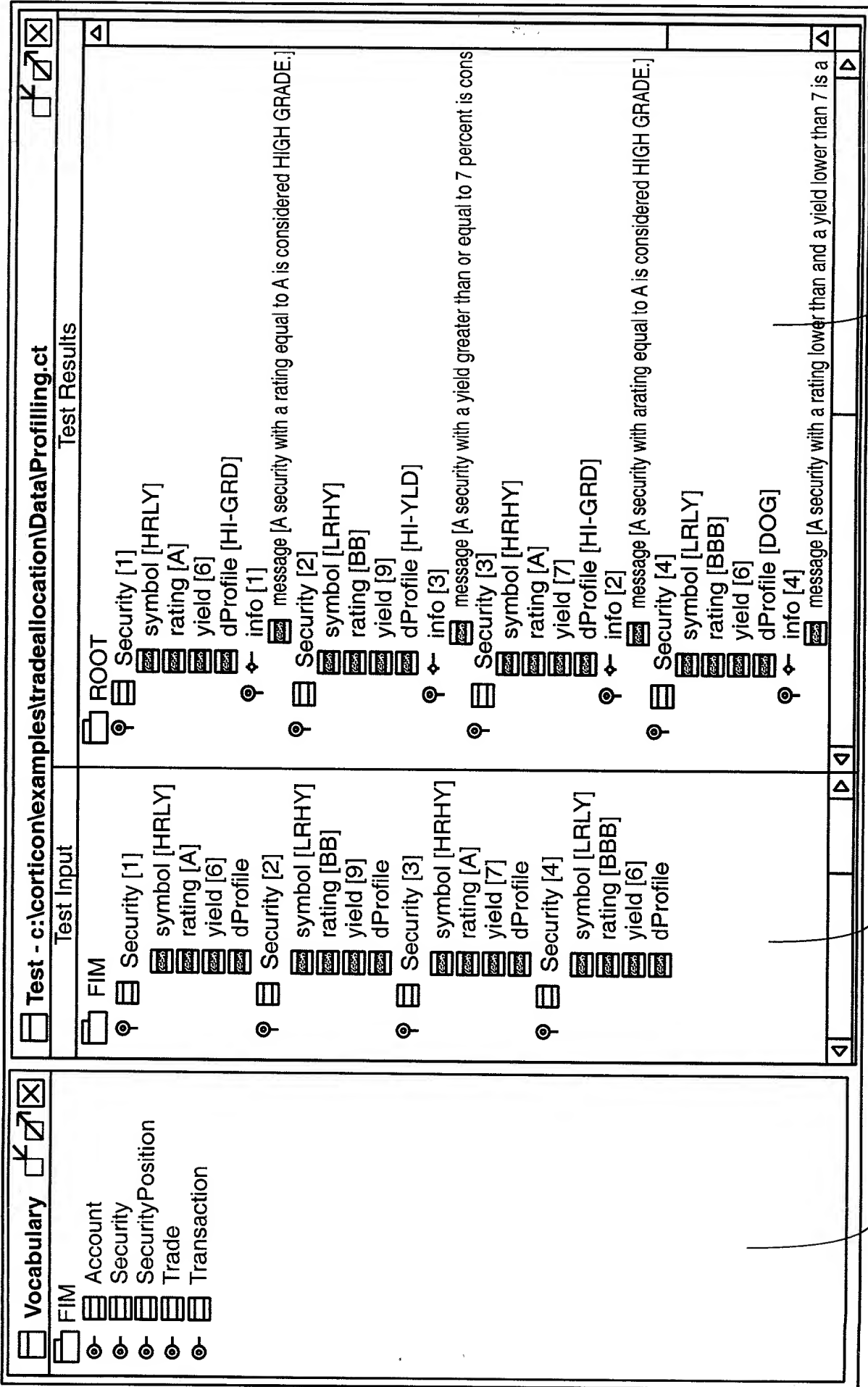


FIG. 13

1306

1304

1402

1404

1502

1504

Constraint Rules									
Preconditions									
1	2	3							
1	2	3							
1	2	3							
Conditions			A	B	C	D	E	F	G
1	[ConstraintCondition1]		X						
2	[ConstraintCondition2]			X					
3									
Constraint Category			V	W					
Overrides									

FIG. 18